having taken place in England or elsewhere. I am the only explorer, after M. Botta and Sir Henry Layard, who discovered "Assyrian slabs," or bas-reliefs, but that was thirty-eight years ago; and as there have been no sculptured slabs discovered in Babylonia, it is difficult to know what is to be understood by such an assertion. I do certainly agree with you that the matter ought not to be allowed to rest, but that the public should insist upon a thorough examination into the matter.

20. In conclusion, I must touch upon one more point, which appeared near the end of the criticism under discussion, about the duty of public servants to their superiors. You say, "With the terror of the decision in this case before them, all members of the public service will be in duty bound to consider whether they are able to afford the expenses of an action at law, and the enormous costs which follow in its train, before they report unpleasant truths to their superiors."

21. It will be indeed a sad day for an old public servant, who has spent the best part of his life in the service of his adopted country, and held with undiminished confidence important appointments of trust under the Crown, to be debarred from obtaining justice elsewhere when it is denied him by the department under which he served with honour, credit, and success for many a year, when his character is unjustifiably assailed.

6 Gloucester Walk, Kensington, W. H. Rassam.

[We are much surprised that Mr. Rassam has taken our article as personal to himself, as we dealt with the thefts in question only from a public point of view, and they might have happened, we suppose, if Mr. Rassam had never existed.

We make the following comments on some of his paragraphs:—

Para. 4. We were not aware that Mr. Rassam had been appealing for a Court of Inquiry. There is no doubt that cause has been shown for a Treasury inquiry in the interests of the public and future explorers, and we hope it will be pressed for.

Para. 6. It was no part of our duty to *sift* the evidence. The point is that evidence was *given* (see *Pall Mall Gazette*, June 30). Did not the British Museum accountant go into the witness-box to state the amounts paid for tablets? and was not the evidence dispensed with because Dr. Budge's "vague" evidence was accepted as sufficient?

Paras. 7 *and* 8. We referred to the evidence given in Court. What else could we do? It was not disproved in Court, or we should have said so.

Para. 9. This is a statement with which only the Trustees of the British Museum can deal. We, of course, are bound to accept Mr. Rassam's statement as he makes it.

Para. 10. We do not quite seize the point of Mr. Rassam's remark here. The statement as to the greater value of the tablets *not* received from him was made by the defendant; it is not ours.

Paras. 11 *and* 12. We can only repeat that the public is interested in knowing that of 134,000 pieces of inscribed clay sent home from Babylonia—it really does not matter by whom, 125,000 have been termed rubbish by Sir H. Rawlinson one of the trustees, the principal librarian, and the present keeper of the collection. It was not necessary to refer to any subordinate official, or to point out the singular fact that he gave evidence contrary to that of three of his official superiors.

Para. 13. We quite agree that it is most startling to hear that, in Sir Henry Rawlinson's opinion, so much of what Mr. Rassam sent home was rubbish. We presume that Mr. Rassam was startled when Sir Henry Rawlinson's deposition was read in Court; that is the reason, perhaps, that he forgot it, as he appears to have done.

Para. 15. Dr. Budge's reports could not be revealed by us because we do not possess them, and have never seen them. All the facts stated were given in evidence to which alone we professed to refer.

Para. 17. Here we cordially agree with Mr. Rassam; as before stated, in our opinion a Treasury inquiry into the expenditure of the public funds on, and the method of carrying out, excavations in the region in question since, say, 1846, is most desirable.

Paras. 18 *and* 19. The article was not written by an expert, and perhaps the word "bas-relief" would have been better than "slab." But there is no doubt about what we mean. Murray's "Handbook to Dorsetshire" informs us that at Canford Hall "a gallery connected with the house by a cloister is devoted to a series of Assyrian sculptures brought from Nineveh." These sculptures—not to call them slabs—are described as "winged lions and bulls, bas-reliefs, &c., similar to those in the British Museum." Now, if there are many such galleries in England, and the objects were obtained at a low price, the whole question of excavation at the public expense is raised.—Ed. Nature.]

Bishop's Ring.

Bishop's Ring still continues very conspicuous about sunset more so than it was for a long time previous to last November, though not so much so as at the end of 1883. It is evident there must have been an addition of some kind to the dust of our atmosphere last November, a considerable part of which yet remains. The light-coloured dust wisps reappeared faintly after the date (April 10) of my letter (p. 582), but have now entirely disappeared again (I have not seen them since July 20); the texture of the sky in the ring being perfectly smooth lately. I have not seen any other peculiar sunset phenomena of late, though Señor Arcimis (Director of the Meteorological Institute) tells me the sunsets are very brilliant at Madrid. He says he is satisfied that Bishop's Ring did not exist in Spain before the Krakatoa eruption; and he agrees with me that it has never since entirely disappeared about sunset.

Sunderland, September 11. T. W. Backhouse.

Spring and Autumn of 1893.

As the peculiarities of this season are receiving attention in your pages, the following notes of things in this part of England may perhaps interest some of your readers.

On March 25 the following flowers were in bloom:—

Adoxa.
Golden Saxifrage.
Speedwell.
Wood Sorrel.
Snowdrop.
Crocus (nearly over).
Grape-hyacinth.
Wood anemone.
Primrose.
Violet (the white, nearly over).
Hazel (nearly over).
Larch.
Celandine.
Cuckoo flower.
Star-wort.
Broom.
Peach.
Gooseberry.
Currant.
Willow (nearly over).
Cherry.

At the same date, the elm had been in flower for weeks; the ash was in full bud; one or two sycamores in leaf; chestnuts in early leaf, and showing flower buds. The helibore had been out long ago; hyacinths were beginning to flower; a few pear buds had burst; the elms and hawthorns had shown green for several days. Butterflies had been seen for several days.

The early heat did not, I suspect, suit all our spring flowers. I saw scarcely anything this year of two of our wall-plants which are usually abundant—the *Draba verna* and the *Saxifraga tridactylites*.

On March 27 bluebells were found in flower.

The state of things now on September 12 is as curious.

The wild roses (both *Rosa canina* and *arvensis*) are again flowering in the hedges—in some cases in great profusion; there are now, or a few days ago have been, in blossom the following:

Apple.
Pear.
Holly.
Buberis Darwini.
Glastonbury thorn.
Kerria.
Wild strawberry.
Dog violets.
Rhododendron.

Some of the autumn flowers appear to me to have suffered from the heat and, perhaps, the drought. I have not seen the *Spiranthes autumnalis*, usually quite abundant here; and the *Colchicum autumnale* has been far less abundant than usual. Some garden bulbs have probably suffered in the same way.

I may add that wasps have been in extraordinary numbers; and that we have found two or three of the nests of the tree-wasp similar to the one depicted in your paper on the 7th inst.

Failand, near Bristol, September 12. Edw. Fry.

NOTES.

Mr. W. Saville-Kent, at present engaged as Commissioner of Fisheries to the Government of Western Australia, has shipped to London a large collection of the stony corals, *Madreporaria*, peculiar to the Western Australian coast line. These specimens, added to the extensive series indigenous to the northern and eastern districts of Australia recently contributed by him to the National Natural History Museum, and which were amassed in association with the explorations that formed the basis of his recently published work on the Australian Great Barrier Reef, will constitute the most complete collection of Australasian *Madreporaria* that has yet been brought together. This latest Western Australian consignment includes several specimens of abnormally large dimensions that should make an interesting display in the Natural History galleries. Mr. Saville-Kent anticipates completing his Australian engagements, and returning permanently to England about twelve months from the present date.

The French *Journal Officiel* has just published a decree for the organisation of the proposed Paris Universal Exhibition of 1900. M. Alfred Picard, who, it will be remembered, filled the office of *Rapporteur Général* for the 1889 Exhibition, has been appointed Commissary-General. He will be assisted by a consultative committee of 100 members.

The next meeting of the Japan Society will be held at 20 Hanover-square, on Wednesday, September 27, when Prof. John Milne will read "A Short Account of Volcanic and Earthquake Phenomena of Japan." The paper will be illustrated by photographic lantern slides, and will be followed by an exhibition of photographic slides illustrating life, customs, and scenery of Japan. The meeting would under ordinary circumstances have taken place in October; it has, however, to be held in September in consequence of Prof. Milne having to return to Japan on September 29.

The Congress of the Photographic Society of Great Britain and affiliated societies for the present year will take place on October 10, 11, and 12. The opening meeting, at which the President's annual address will be delivered, is to be held at the gallery of the Royal Society of Painters in Water Colours. The other meetings will be held in the theatre of the Society of Arts.

We hear that Mr. Max Muspratt has just gained the diploma of Chemistry awarded annually by the Swiss Government to a limited number of students for exceptional proficiency in the scientific and technical knowledge of chemistry. Mr. Muspratt, who went to Zurich direct from Clifton College, is the first Englishman to gain this distinction.

We learn from the *Lancet* that an interesting experiment is to be made in connection with next year's meeting of the Norwegian Medical Congress. At the meeting recently held in Christiania it was decided that next year members shall assemble on board a yacht, which will cruise during their deliberations. Weather and other things being favourable, the experiment should prove a very admirable mode of combining business with pleasure.

The *Ceylon Observer* for August 18 has a moderately worded editorial urging the establishment of a zoological garden in Colombo, especially for the purpose of giving the many visitors who pass through Colombo an opportunity of seeing for themselves how rich and varied is the fauna of Ceylon. The *Observer* is confident that the fees paid for viewing the collection would suffice to pay the whole, or nearly the whole, of the expenses which would be incurred.

According to the *Pharmaceutical Journal*, the Kew Herbarium has recently been enriched by the addition of forty-six dried specimens of ferns collected in Sarawak, including six new species; two hundred species of plants collected by Sintenis in Kastamuni (the ancient Paphlagonia), Asia Minor; twelve hundred dried plants collected in Kashmir; one hundred and thirty-nine specimens of Mexican plants; and one hundred and twenty-nine of the Greenland and Iceland flora.

An artificial horizon invented and recently patented by Mr. W. P. Shadbolt, possesses several advantages over other forms. The surface of the mercury is never exposed to the air, hence it does not easily become contaminated, and is also protected from wind. Further, loss of mercury is entirely prevented, thus dispensing with the necessity for taking any extra supply. The instrument permits very small altitudes to be observed, and after having it under trial for more than a year in tropical Africa, under circumstances entailing a good deal of rough usage, Mr. Shadbolt reports that its behaviour was most satisfactory.

The general report of the operations of the survey of India during the survey year ending September 30, 1892, has been issued. From it we learn that the area surveyed in detail during the year amounts to 80,101 square miles. In addition to this, transverse operations have been carried on over an area of 5921 miles. By the measurement of six arcs of longitude the original scheme of differential longitude determination within India proper has been completed. Colonel Waterhouse reports upon a method he has been using to prepare a very sensitive orthochromatic collodion-bromide emulsion. Plates coated with this new emulsion require to be used in a moist state in order to obtain maximum sensitiveness and clear negatives. But wet-plates are inconvenient, and if some means could be found of preparing equally sensitive dry-plates, the process would possess consderable advantages.

We learn from the *Botanical Gazette* that forty professed botanists are now engaged in botanical research at the fifty-four Agricultural Experiment Stations in the United States. Of this number ten are also working in entomology, three in horticulture, one in arboriculture, and one in meteorology.

No. 2 of the *Illustrated Archæologist* has just reached us. It is, if possible, more tastefully got up than No. 1, and archæologists will indeed be hard to please if they cannot find something to interest them among the eight items which go to make up the present number. Among the articles we notice "Stonehenge," by Edgar Barclay; "Notes on some of the Sculptured Tombstones of Argyllshire," by R. C. Graham; and "The Roman City of Silchester," by H. W. Young; while Prof. A. C. Haddon writes on "Wood-Carving in the Trobriands." The magazine is published by Mr. C. J. Clark, 4 Lincoln's-inn-fields.

Prof. John Milne, F.R.S., has brought out, through Messrs. Crosby Lockwood and Son, a little work of which he is the compiler, and which should be very serviceable to the class for which it is intended, viz. students and others interested in mining matters. The title of the book is "The Miner's Handbook," and is a reprint, with corrections and additions, of a compilation, the first part of which was printed at Tokio some fourteen years ago. The little volume is of handy size, has rounded corners, making it suitable for carrying in the pocket, and, with the exception of the title-page, preface, and contents, was printed (and printed well) in Japan.

We have received from the Australian Museum, Sydney, Part III. (Gasteropoda) of the "Catalogue of the Marine Shells of Australia and Tasmania," by J. Brazier. The author, in a prefatory note, says, "The present part contains only the genus Murex. The remaining genera are not included, from causes beyond my control."

Mr. D. Forbes, 29, Victoria-street, Bristol, has sent us the catalogue of a very interesting exhibit at the Bristol Industrial and Fine Art Exhibition. It is that of the collection formed by Mr. F. Mockler, of portraits, diplomas, freedoms, grants, presentations, addresses, visiting-books, correspondence, pamphlets, printed works, manuscripts, &c., once the property of the discoverer of Vaccination. The catalogue is prefaced by a brief memoir of Dr. Jenner.

THE September number of the *Board of Trade Journal* contains an interesting account of the development of the World's Telephones, by M. Daniel Bellet, translated from the *Economiste Francais*, "A Summary of Agricultural Returns of Great Britain for 1893," "Coal Production in Japan," and many other items of interest.

WE have just received the Proceedings and Transactions of the Royal Society of Canada for the year 1892. The London agent for it is Mr. Bernard Quaritch.

A LIST of observations made in 1892 by the members of the Caradoc Field Club, Shropshire, and others, has been issued under the title, "The Caradoc Record of Bare Facts."

THE report for 1892 of the Botanical Exchange Club of the British Isles has just reached us. It is issued by Messrs. James Collins and Co., Manchester.

THE Calendar of the Durham College of Science, Newcastle-on-Tyne, for the session 1893-94 has reached us. It is published by Messrs. Andrew Reid, Sons, and Co., London, and Newcastle-on-Tyne.

MESSRS. F. AND F. GIBBONS, Liverpool, have issued prospectuses of Day Classes in Arts and Science, and of the Evening Lectures, and of the Department of Engineering, in connection with the University College, Liverpool, for the session 1893–94. They contain all the preliminary information which intending students are likely to require.

THE Calendar for 1893-94 of the Glasgow and West of Scotland Technical College has just been published by Mr. Robert Anderson, Glasgow.

DR. W. H. PEARSE has sent us a copy of the address delivered by him as president of the Plymouth Institution and Devon and Cornwall Natural History Society, at the opening meeting of the session 1892–93. It deals with the subject of our present knowledge of biological science.

WE have received a printed circular signed "A Free Lance," condemning a recent action of ours in refusing to print a letter from the author on the subject of the "Publication of Physical Papers" unless, in accordance with the rule to which attention is drawn in every number of NATURE, he divulged his name. We fail to see any adequate reason for violating our rule in the favour of "A Free Lance" more than in the case of any other of our correspondents.

THE products of the sublimation of arsenic form the subject of an important communication to the latest number of the *Zeitschrift für Anorganische Chemie*, by Dr. Retgers. The various allotropic modifications of the element have been subjected to a searching investigation, and further interesting information has been acquired concerning the little known solid hydride of arsenic AsH, and the suboxide As_2O, whose existence has hitherto been considered doubtful. It is first shown that there is no amorphous modification of arsenic, the deposit of so called "black amorphous arsenic," obtained during the sublimation of the element in a current of hydrogen and in a number of high temperature decompositions of arsenic compounds, is found to be microcrystalline and to exhibit distinct evidence that it consists of the ordinary regular variety. There are consequently only two well-defined allotropic modifications of arsenic: (1) the stable form which crystallises in the hexagonal system, is silver-white in appearance, specifically heavy, and requires a comparatively high temperature for volatilisation; and (2) the specifically lighter and more volatile modification which crystallises in regular octahedrons, and exhibits a black surface. When arsenic is heated to the point of sublimation in a current of indifferent gas, the first variety condenses nearest the heated element, while the second variety, owing to its lower temperature of volatilisation, is deposited more remote from the portion of the tube which is heated by the flame. These two forms of arsenic correspond completely with the two modifications of phosphorus, the regular black variety with the regular yellow modification of phosphorus, and the silver-white hexagonal form with the hexagonal red phosphorus. Dr. Retgers adduces some evidence also in support of the view that there is a third crystalline modification of arsenic, of which the crystals belong to the monoclinic system. The fact is also recorded that elementary arsenic, of whatever modification, is invariably opaque even when in the finest state of division; former observations of yellow and brown transparent arsenic are shown to have been due to compounds having been mistaken for the element. The brown spots which are deposited along with arsenic when the flame from a Marsh's apparatus is allowed to impinge upon cold porcelain, or which form in the Marsh sublimation tube, do not consist of the element in thin layers, but of the brown solid hydride AsH, which is produced by the partial dissociation of the gaseous trihydride AsH_3. When the last-named substance is heated during its passage along the sublimation tube, the arsenic mirror consists of both modifications of the element, the silver-white hexagonal form nearest the flame, and the black regular variety further removed. The brown deposit of solid hydride AsH is always found furthest removed of all, and thus forms, as it were, the tail of the mirror. Dr. Retgers finds that boiling xylene readily dissolves this solid hydride, thus affording an excellent mode of distinguishing it from elementary arsenic, which is totally insoluble in xylene.

THE solid hydride of arsenic was isolated some years ago by Janowsky, who obtained it as a brown velvet-like substance by decomposing potassium or sodium arsenide with water. Ogier has subsequently shown that it may likewise be obtained by the action of the silent electrical discharge upon the gaseous trihydride. The existence of the suboxide of arsenic has hitherto been so doubtful that the compilers of the new edition of "Watt's Dictionary of Chemistry" feel justified in stating that "no definite proof of the existence of an oxide with less oxygen than As_4O_6 has been given." Dr. Retgers, however, adduces weighty evidence in favour of the supposition. As explained above, when arsenic is sublimed in a current of inert gas (carbon dioxide, for instance), a deposit consisting of the two modifications of the element, white and black, is obtained. The moment, however, that a little oxygen or air is allowed to mix with the carbon dioxide a *brown* annulus commences to form between the white and the black elementary deposits. This brown sublimate is not crystalline, and is transparent, the thin films proving to be quite isotropic in polarised light. In order to produce a broad deposit of this brown substance it is advisable to employ a wide tube, and to stop the experiment as soon as the annulus is formed, as further heating soon decomposes it again. From this and further evidence adduced by Dr. Retgers, there can be no longer any reasonable doubt that a lower oxide of arsenic, probably As_2O, is capable of existence.

THE additions to the Zoological Society's Gardens during the past week include a Campbell's Monkey (*Cercopithecus campbelli*, ♀) from West Africa, presented by Miss Jane Richards; a Pig-tailed Monkey (*Macacus nemestrinus*, ♂) from Java, presented by Miss Llewellyn; an Azara's Capuchin (*Cebus azaræ*, ♀) from Paraguay, presented by Miss Hairby; two Common Marmosets (*Hapale jacchus*) from South-East Brazil, presented by Mr. E. Lake; two Lions (*Felis leo*, ♂ ♀) from East Africa, presented by H.H. the Sultan of Zanzibar; two Egyptian Jerboas (*Dipus ægyptius*) from Egypt, presented by Miss B. Dell; two Egyptian Jerboas (*Dipus ægyptius*) from

Egypt, presented by Mr. M. W. Edgley; one Egyptian Jerboa (*Dipus ægyptius*) from Egypt, presented by Mr. W. R. Clark; a Golden Eagle (*Aquila chrysætus*) from Scotland, presented by Mr. Bryan Cookson; a —— Buzzard (*Buteo* ——) from West Africa, presented by Mr. Rice; three Tench (*Tinca vulgaris*) from British Fresh Waters, presented by Mr. Arthur E. Rumsey; two Collared Fruit Bats (*Cynonycteris collaris*), a Wapiti Deer (*Cervus canadensis*, ♂), a Japanese Deer (*Cervus sika*, ♀) born in the Gardens.

OUR ASTRONOMICAL COLUMN.

DOUBLE STAR MEASURES.—Nos. 3185-86 of the *Astronomischen Nachrichten* contains the micrometrical measures of double stars made by Mr. Tarrant during the years 1889-92. This series is a continuation of that published in a preceding number (2991) of the same journal. The same instrument has been employed as formerly, but its position has been changed, it now being 510 feet above the sea level. Stars with considerable southern declination can thus be much more accurately measured. The objects are arranged in the following order:—Dorpat Catalogue, Pulkova Catalogue, Burnham, and Miscellaneous.

PUBBLICAZIONI DELLA SPECOLA VATICANA.—In the third volume of this publication there are several contributions of interest and importance to which we can here briefly refer. In the Astronomical Section, M. P. G. Lais gives an account of the measurements of the position of Nova Aurigæ (with a photograph), and also a few words on the comets Swift, Holmes, and Brooks. M. P. F. Denza, in addition to a communication on the total eclipse of the moon that occurred on November 4, 1892, gives a summation of the observations made of the shooting stars of August in that year, and of the shooting stars of November in the same year, and also of solar spots, magnetic disturbances, and auroræ. In the Astro-Photographic Section, M. P. G. Lais and F. Mannucci give an account of the work done for the international chart and catalogue of the heavens; twenty-six photographs for the chart, and 115 for the catalogue were taken, while 154 other photographs, including groups of stars, nebulæ, comets, &c., were obtained. These communications are accompanied by some fine photographs, which include the Præsepe group, Nebula of Orion, and some of the sun. M. P. F. Denza communicates most of the articles in the Magnetic Section, while the Meteorological Section contains many important communications, with several diagrams, among which we must mention that on the classification of clouds, by M. F. Mannucci, which is illustrated by a beautiful series of photographs showing the various forms which they assume.

COMET FINLAY AND THE PRÆSEPE.—The ephemeris of Finlay's comet showed that a passage through the star-group Præsepe would take place about the beginning of October. In *Astronomischen Nachrichten*, No. 3187, Prof. A. Berberich gives a comparison of the ephemeris with the star-places in Yarnall's catalogue the measures of C. Wolf and Winnecke giving the following table of conjunctions. (γ. Pr. = number in Yarnall's catalogue):—

γ. Pr.	Conj in R.A. M. T. Paris.	h	Comet-Star Δ δ ′
5	2 Oct.	20·9	− 0·2
9	3 ,,	3·8	− 2·3
16	3 ,,	15·1	− 1·4
37	4 ,,	6·0	+ 0·3
59	4 ,,	21·1	− 0·6
69	5 ,,	2·2	− 1·0
74	5 ,,	3·0	+ 0·2
89	5 ,,	7·5	+ 1·0
134	6 ,,	8·8	− 0·0
148	7 ,,	12·7	− 1·4
150	7 ,,	17·0	+ 1·9

SOCIETIES AND ACADEMIES.

PARIS.

Academy of Sciences, September 11.—M. Lœwy in the chair.—Treatment of vines infested by *Phylloxera* with peat moss impregnated with schist, by M. F. de Mély. The results of the treatment proposed last year have been controlled by the Inspector-General of Agriculture and by the Inspector-General of the Compagnie de Lyon. As a consequence of their visit, the Minister of Agriculture has sent Dr. Crolas, of Lyon, to organise further applications of the method. A vine already attacked by *Phylloxera* has been under treatment since June, and although some of the insects have survived, the vine has not turned yellow. The portion of the vineyard treated by this method for two seasons has retained its rootlets in a perfect state, and those vines which were treated with the maximum dose—viz. 2 kgr. of the mixture, containing 200 grs. of pure schist, show no trace of *Phylloxera*.—Magnetic observations recently made in Russia by M. Venukoff. Observations at about a hundred stations comprised between 45° 11′ and 36° 42′ of latitude, and 65° 47′ and 82° 17′ of longitude east of Greenwich prove that the isogonal lines inserted in Berghaus's *Physikalischer Atlas* are not exact for Central Asia; in particular, the degrees of declination accepted are too large. Local variations of the magnetic elements in European Russia have recently been investigated, and some very large disturbances have been discovered. In the province of Grodno the magnetic declination was found to change by 10° in a distance of 21 km., and in the neighbourhood of Belgorod the deviation mounted up to 180° in a space of a few tens of square km. This implies the presence of a small and perfectly local magnetic pole. It must be remembered that in the Neva delta the fortress of St. Peter and Paul is known to deflect the magnetic needle by 10°.—Presence of a ferment analogous to emulsine in mushrooms, and particularly in parasitic mushrooms of trees or those growing on wood, by M. Em. Bourquelot. It is proved that several mushrooms, and especially those developing on living or dead wood, contain a soluble ferment possessing the property of doubling various glucosides, such as amygdaline, salicine, and coniferine. It is not possible to say that this ferment is identical with the emulsine of the almonds, but it acts in the same manner and upon the same substances. This ferment was found in two ways. In one, the fresh mushroom was placed in a saturated atmosphere of ether or chloroform vapour, which produces an abundant exudation of liquid holding in solution a large portion of the principles contained in the cellular juice. This liquid was placed for 24 or 48 hours in direct contact with a solution of a glucoside; or an aqueous solution was formed by precipitation with alcohol, and treated in the same manner. In the second process, the mushroom was triturated with sand and transformed into a paste; this paste was treated with distilled water and filtered off, the liquid being used as before. One specimen, picked from an elder branch, gave a liquid which completely converted a dose of coniferine into grape-sugar in the course of three days. The ferment is limited to fungi living on wood, enabling them to assimilate the glucosides contained in it.—On a method of determining the density of gases for industrial purposes, by M. Maurice Meslans.

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